UNITED
NATIONS

E

Economic and Social
Council

Distr.
GENERAL

E/1982/3/Add.38/Rev.1
30 March 1990

ENGLISH
Original: ARABIC

First regular session of 1990

IMPLEMENTATION OF THE INTERNATIONAL COVENANT ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS

Initial reports submitted by States parties to the Covenant concerning rights covered by articles 13 to 15, in accordance with the third stage of the programme established by Economic and Social Council resolution 1988 (LX)

Addendum

JORDAN

[17 January 1990]

GE.90-15972/1914B

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1. Pursuant to the provisions of the International Covenant on Economic, Social and Cultural Rights, which has been ratified by the Jordanian Government, article 16 of which stipulates that "the States Parties to the present Covenant undertake to submit in conformity with this part of the Covenant reports on the measures which they have adopted and the progress made in achieving the observance of the rights recognized herein", the Ministry of Foreign Affairs of the Hashemite Kingdom of Jordan has the honour to submit Jordan's first report on articles 13 to 15 of the International Covenant on Economic, Social and Cultural Rights.

2. The development of education began with the establishment of the Emirate of Transjordan in 1921, when a comprehensive educational expansion programme was launched and numerous primary and secondary schools were opened. By 1922, a notable increase had been achieved in the number of schools, which had risen from about 10 to 44. The first teachers' congress was held in 1923, and foundation stones were laid for the secondary school at Salt and also for a number of intermediate schools at Amman, Irbid and Karak. The first craft school was established at Amman in 1930. In 1930/31, there were 5,239 students studying at 54 schools staffed by 122 teachers.

3. The educational system comprised a primary stage of seven years' duration and a secondary stage of four years' duration (or, alternatively, a vocational stage of craft or agricultural training of two years' duration). Both the primary and the secondary stages ended with a public examination.

4. The development of education during the period of the Emirate was characterized by an increasing number of schools, the standardization of syllabuses, the formation of the first Educational Council in 1923 and the establishment of the first Ministry of Education in 1940. Following independence, in 1946, the pace of development increased, and by 1950 the Kingdom had 691 schools staffed by 3,022 teachers, at which 123,319 students were enrolled.

5. During the last three decades, the Kingdom has achieved a noteworthy quantitative and qualitative improvement in education. In 1987/88, there were 963,252 students enrolled at 3,565 schools staffed by 42,533 teachers. According to the latest statistics published by the Ministry of Education, the number of teachers in the Kingdom amounts to 47,413, of whom 18,834 are male and 28,579 female. Of these, 37,439 are working in schools run by the Ministry of Education, 606 in other government schools, 3,656 in schools run by UNRWA and 5,712 in private schools.

6. The total number of students enrolled at schools in the Kingdom amounts to 987,282, of whom 740,419 are studying in schools run by the Ministry of Education, 10,032 in other government schools, 133,883 in schools run by UNRWA and 102,948 in private schools.

7. The total number of schools in the Kingdom amounts to 3,630, of which 1,078 are for boys, 959 for girls and 1,598 comprehensive. Of these, 2,595 are run by the Ministry of Education, 20 are government schools, 178 are run by UNRWA and 842 are private schools.

8. The principle of universal education forms part of a single, overall educational policy, which is designed to achieve the following objectives:

(a) To make education available to all members of society, on the basis of social equality, through the provision of equal educational opportunities within the limits of individual capabilities;

(b) To improve individual and collective standards of living and increase national income by providing equal educational opportunities for all through the development of educational curricula in a manner consistent with the wishes and desires of individuals and conducive to the fulfilment of the present and future needs of the country;

(c) To provide opportunities for all citizens to receive formal education through evening classes, informal educational programmes, campaigns for the eradication of illiteracy and other adult education programmes linked to development projects.

9. In recent years, the Ministry of Education has taken special measures with a view to achieving the five objectives listed below.

10. The first objective is the achievement of a higher degree of democracy in regard to access to education and greater equality of opportunity for children, young persons and adults. For example:

(a) The Ministry has achieved an equitable distribution of educational services and has provided equal opportunities for all citizens, in both rural and urban areas, to the extent permitted by the budgetary resources of the State. Educational opportunities have been provided for all children of primary school age through the establishment of schools in all parts of the Kingdom;

(b) The Ministry has provided appropriate educational facilities so that highly talented students who have successfully completed their preparatory studies can continue their education at secondary schools and vocational training centres;

(c) The Ministry has opened adult education centres and has organized evening classes and vocational training courses.

The Ministry has also promulgated the regulations needed to enable it to implement these measures.

11. The second objective is the achievement of equality of educational opportunities for both sexes. Thus the facilities of the Ministry of Education are accessible to all members of Jordanian society, regardless of sex and without any social or economic discrimination. Both sexes enjoy equal opportunities in regard to enrolment at the various stages of education, and the same educational curricula are followed by all persons in both urban and rural areas.

12. The third objective is intensification of the campaign for the eradication of illiteracy. Thus the Ministry has made special arrangements for the organization of evening and summer classes and vocational training courses in order to provide educational opportunities for all persons desirous thereof. Educational centres for the eradication of illiteracy are established wherever there are at least 15 potential students, and education, books and stationery are provided free in those centres.

13. The fourth objective is provision of better education for socially deprived and handicapped persons. To this end, the Ministry has organized: (a) supplementary and further education classes for the benefit of students requiring special care to improve the level of their capabilities; (b) summer classes; (c) nutrition programmes to reduce the effect of malnutrition on academic achievement.

14. The fifth objective is the expansion of educational facilities to include adults. However, implementation of this plan has been prevented by lack of financial resources.

15. The educational system in the Kingdom is designed to achieve the integration of formal and informal education. The Ministry is therefore endeavouring to provide education for all persons. The development of science and technology has helped to enrich the educational curricula, which had formerly been restricted to traditional subjects. New teaching methods are helping to improve the quality of education, and scientific developments in the field of communication have facilitated the provision of opportunities for further education. The number of persons benefiting from such education has been increased to include the vast majority of social categories.

16. Education is a national priority in Jordan's development projects and also in its policies for the future, and is a matter of ongoing concern for Jordan's political and community leaders at all levels. In his address delivered before the National Assembly in 1985, H.M. the King emphasized "the need to enhance the educational system in order to enable it to keep pace with developments in the field of science and other branches of knowledge, to adapt to social and cultural changes and to absorb and respond to new factors in various sectors of society with a view to bridging the gap between individual and collective requirements, on the one hand, and the educational system, on the other".

17. For the last two decades, Jordan has been applying the principle of overall development plans. The most recent of these was the five-year plan for 1986-1990, which called for a linkage between the development of education and socio-economic needs based on the future requirements defined in the plan.

18. The First National Conference on the Development of Education was held from 7 to 9 September 1987. One of the main topics of discussion at the Conference was the structure of education, the need to raise the general educational standard of students entering the labour market after completing their basic education, and the need to extend the period of compulsory education and link it to the minimum working age. The discussions also focused on the need to eliminate the barriers separating the various forms of general and vocational education at the secondary level and to improve the standard of secondary education in such a way as to make it more intensive and specialized and more capable of achieving its principal objectives of preparing the student for higher education, working life and good citizenship.

19. The Conference recommended that formal education preceding the level of higher education should comprise two main stages: basic and secondary education:

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(a) Basic education should comprise 10 years of compulsory standardized education for which students in the age group 6-16 years would be enrolled;

(b) Secondary education of two years' duration should consist in specialized non-compulsory education, for which students in the age group 16-18 years would be enrolled;

(c) Secondary education should be of two main types: overall secondary education based on a common general educational syllabus and a specialized academic or vocational syllabus; practical secondary education based on vocational training.

20. In Jordan, education is compulsory and free of charge at the primary and preparatory levels, in accordance with the provisions of the Jordanian Constitution, article 20 of which stipulates that: "Primary education shall be compulsory for Jordanians and shall be provided free of charge at State schools", and also in accordance with the Education Act No. 16 of 1964 and the provisional Act No. 27 of 1988, which stipulates as follows:

Article 3 (c) (i): "Jordanians are equal in regard to their rights and obligations, as well as their political, social and economic needs. They are distinguished by the extent of their devotion and attachment to their society."

Article 3 (c) (vi): "Education is a social necessity and a right to which all persons are entitled, in accordance with their individual aptitudes and abilities."

Article 4, paragraph (q): "Respect for the human person, the formation of values and positive attitudes towards oneself and others, work, social progress and the embodiment of democratic principles in individual and social conduct."

21. The educational system is based on six years of primary education and three years of preparatory education, which together constitute the stage of compulsory free education, and three years of secondary education of the academic and vocational types, with their various branches. School textbooks are distributed free of charge to students at State primary and preparatory schools and at cost price to students at secondary schools.

22. Some of the educational services provided by the Ministry of Education with a view to ensuring the successful achievement of the objectives of the educational process are indicated below.

Educational training

23. The purpose is to provide teachers, school principals and school inspectors with in-service training with a view to enhancing their skills and capabilities in order to enable them to discharge their functions in a competent and effective manner. This task is undertaken by the Educational Training Department at the Ministry of Education, the body responsible for supervising the training of personnel employed in all the general directorates at the headquarters of the Ministry and also in the provincial departments of education, in order to improve their professional performance in the teaching and administrative fields. This training includes the programmes described below.

24. The training programme for kindergarten teachers up to the diploma level preceding the first university level began in the academic year 1981/82 with the training of teachers working in kindergartens run by the private sector, as a token of the Ministry's support for that sector, which is responsible for the education of children at the pre-school age. The number of intakes, students and graduates up to the year 1987/1988 was as follows:

Number of intakes	Number of students	Number of graduates
5	204	178

This programme was suspended at the end of the academic year 1987/88, since the intermediate colleges now train teachers for this purpose.

25. The programme for the training of university graduates employed by the Ministry, to the level of the post-graduate diploma in education and the master's degree in education, began in the academic year 1979/80 with a limited number of teachers who were enrolled at the University of Jordan to study for the diploma in education. This procedure continued until a similar programme was instituted at Yarmouk University three years later and at the civil section of Mutah University in the first term of the academic year 1986/87. The numbers of persons enrolled for the diploma and master's degree programmes at the three universities from the first term of 1986/87 to the second term of the academic year 1988/89 were as follows:

	University of Jordan	Yarmouk University	Mutah University
Diploma	800	270	91
Master's degree	90	55	-

The number of graduates up to the end of the summer term of 1987/88 were as follows:

	University of Jordan	Yarmouk University	Mutah University
Diploma	374	120	25
Master's degree	45	25	-

26. The programme for the training of teachers already in employment and who hold intermediate college or equivalent diplomas began in the first term of the academic year 1988/89 with an intake of 300 teachers from three departments of education (Greater Amman, Zarqa and the City of Amman). A college will be opened in the city of Irbid for the departments of education situated in the northern region, and 300 teachers are expected to begin their training there in the second term of the academic year 1988/89.

In-service training

27. The aim of this training is to develop the professional skills of teachers and staff employed at the Ministry and in the field, in their respective spheres of specialization, in accordance with the requirements of the Ministry and the needs of individuals. Such training is usually provided at courses which are held throughout the year, but primarily during the summer

holiday. It is supervised by the Directorate of Educational Training and Inspection at the Ministry. The Ministry has now completed the formulation of a comprehensive training plan based on the recommendations of the Conference on the Development of Education. In general, the objective of this plan is to provide training for all persons employed by the Ministry, including school inspectors, teachers, librarians, laboratory supervisors and school principals. In the case of teachers, school inspectors and principals, the training focuses on the new school textbooks that will be compiled in the light of the planned new syllabuses and of the new concepts concerning teaching methods and the manner in which these new books should be used.

28. During the academic year 1988/89, 15 summer courses were organized for 3,550 trainees, in addition to 75 courses held at other times of the year.

Educational television

29. The aim of educational television is to develop new educational expertise and promote educational concepts and trends which traditional methods are unable to propagate among students and teachers. It was used for the first time in Jordan in 1968, when formal educational and cultural programmes were broadcast during the morning and evening periods. A UNESCO expert was seconded to the Educational Television Section in June 1971 and, at the beginning of August 1971, he was joined by an assistant specialized in production, within the context of UNESCO assistance in the development of educational television programmes. In the academic year 1973/74, the broadcasts included geography for the first secondary grade, as well as the English language, physics, mechanics, the Arabic language, mathematics, technical education and biology. From the time of its establishment up to 1 January 1989, the Educational Television Section had produced 1,050 programmes. These programmes are screened during school hours in the presence of the class teacher and are regarded as part of the school curriculum. Each programme, which runs for 20 to 30 minutes, deals with a specific educational topic for a particular grade. At the end of the programme, the teacher explains any obscure points and answers questions. The Ministry has provided colour television sets for 336 schools and video recorders for about 162 schools (the total number of secondary schools in the Kingdom amounts to about 520).

School radio

30. The aim of school radio is to provide students with educational information in a rapid and more effective manner through the use of various forms of broadcasting techniques. It also helps to enhance the educational and academic proficiency of teachers.

School health

31. The aim of the school health programme is to improve the standard of health awareness and health education and provide students with basic health services with a view to protecting them from diseases and promoting a more hygienic school environment. However, due to lack of financial resources, until the beginning of the academic year 1988/89 the school health programme covered only students in the first primary and first preparatory grades in the State schools, where complete physical examinations were carried out, in addition to immunization against diseases and the provision of dental health care.

32. At the beginning of the academic year 1988/89, the Ministry of Health decided to abolish the system of school health teams and distribute their physicians and assistants among the 500 health centres throughout the Kingdom, each of which was to provide health services for the schools in its area. It was also decided to increase the number of students receiving medical examinations by including all those studying in the first primary grade, the fourth primary grade, the first preparatory grade and the first secondary grade. The following table shows the total number of students to be medically examined in 1989:

	First primary	Fourth primary	First preparatory	First secondary
Males	35 859	37 305	33 429	15 937
Females	35 855	36 362	29 973	18 757
Total	71 714	73 667	63 402	34 694
Grand total	343,477 male and female students.			

School nutrition

33. The aim of the school nutrition programme is to raise the level of achievement and performance of students by improving their standard of health through the provision of a light meal in order to provide them with better opportunities for physical and social development. The school nutrition programme, which was introduced in 1965, complements the various other educational services.

School clubs

34. The aim of school clubs is to help students to use their leisure time in an organized manner and in a proper social and educational climate through the practice of religious, cultural, scientific, artistic, vocational, sporting and voluntary activities. These activities take place during the summer holiday.

Introduction of computers in schools

35. Educational computer instruction is provided at 160 secondary schools throughout the Kingdom. Seventy of these schools have already been provided with computers (11 machines per school) and the other 90 schools will be similarly equipped during the academic year 1988/89 when the requisite electrical connections have been made and after the machines have arrived in Jordan. As a preparatory step, one machine has been supplied to each of the 90 schools to enable the teacher to undertake some practical applications. At the present time, computer instruction is confined to the first secondary grade at the above-mentioned schools.

Cultural centres

36. These are private educational institutions at which a number of activities are organized in the form of scheduled educational courses in professional fields such as commerce, industry, engineering, the arts and languages. The activities of the cultural centres complement and supplement

the academic and vocational education that is provided and supervised by the Ministry of Education in various educational fields in the public and private sectors. Consequently, the activities of these centres have been expanded through the annual addition of new courses in which modern techniques, such as audio-visual aids for computer operation and programming, are used in a manner consistent with present-day requirements and the diversified nature of social needs.

37. The cultural centres began their activities in 1945 when the first centre was established in the city of Amman. Their activities gradually developed and increased until 1980. From 1981 to 1986, there was a marked increase in the number of centres, due to popular demand for their establishment in all the areas covered by the various departments of education. As a result, by 1986, there were 165 such centres at which 15,584 students were studying. During the academic year 1987/88, the number of students at these centres declined to 10,582 owing to the rapid increase in the number of such centres, the growing competition among them, their increasing emphasis on commercial as opposed to educational objectives, and the existence of similar activities (of a higher standard) at educational institutions such as Jordan's universities and intermediate colleges, the objectives of which are being furthered by other services provided by the Ministry.

Higher educational facilities

38. According to the latest official statistics, more than one third of Jordan's population is studying at primary, preparatory or secondary schools or receiving optional university education at Jordan's four universities:

(a) The University of Jordan, established in 1963, which comprises 14 faculties providing instruction in virtually every field of specialization. These fields, numbering about 63, include the arts, economics, administration, Islamic law, science, medicine, education, agriculture, engineering, jurisprudence, physical education, pharmacy, dentistry and various other higher studies. The total number of graduates in 1987/88 amounted to 2,657, of whom 1,301 were female, at all levels (bachelor's degree, higher diploma, master's degree and doctorate);

(b) The University of Yarmouk, which comprises four faculties and the Hajawi Technological College, providing instruction in 25 fields of specialization including science, the arts, education, fine arts, economics and administration. The total number of graduates in the year 1987/88 amounted to 2,615, of whom 879 were female, at various levels (bachelor's degree, higher diploma and master's degree);

(c) The University of Science and Technology, providing instruction in the following fields of specialization: medicine, dentistry, pharmacy, nursing, civil engineering, electrical engineering, architecture and mechanical engineering. The total number of graduates in 1987/88 amounted to 134, of whom 19 were female, at various levels (bachelor's degree and master's degree);

(d) Mutah University, providing instruction in six fields of specialization, including law, administration, the humanities and the natural sciences. In the academic year 1987/88, 195 students graduated with bachelor's degrees.

39. The following table shows the number of Jordanian students enrolled at higher educational institutions in and outside Jordan, as well as the percentage in each category and their proportion in relation to the total population in the higher educational age group (18-23 years).

	Number of students	Percentage
Jordanian students enrolled at higher educational institutions in Jordan	60 543	63.7
Jordanian students enrolled at higher educational institutions outside Jordan	34 459	36.3
Total	95 002	100
Population in the age group 18-23 years	276 500	34.3

40. In comparison with previous years, there has been a notable decline in the number of Jordanians receiving higher education outside Jordan. In 1986/87, for example, the proportion was 3.7 per cent lower than in 1985/86.

41. The intermediate colleges, some of which are private while others are under the direct supervision of the Ministry of Education, other government ministries or departments or UNRWA, provide instruction in education, commerce, engineering, medicine, agriculture and the social sciences. The annexed table */ shows the numbers of students at these intermediate colleges by field of specialization, level, sex and supervisory authority in the academic year 1987/88.

42. The Government has laid down specific requirements for admission to Jordan's universities, in accordance with article 5 of the Higher Educational Council Act No. 13 of 1980, as amended, which stipulates as follows:

> "1. Before the beginning of each academic year, the Higher Educational Council shall determine, at the request of the universities, the numbers of students who can be admitted to each Jordanian university faculty during the year, in the light of Jordan's needs and the absorption capacity of the universities.
>
> "2. The admission of students to Jordan's universities shall be subject to the following conditions:
>
> "(a) They must hold a general certificate of secondary education or an equivalent qualification;
>
> "(b) Each university shall lay down further conditions for the admission of students to each faculty or department, including the

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*/ This table is available for consultation by members of the Committee in the files of the Secretariat.

student's minimum standard of achievement in the general certificate of secondary education examination, provided that this shall be not less than 65 per cent;

"(c) Students shall be admitted to the various faculties or departments in accordance with their personal preferences and in order of precedence based on the marks obtained in the general certificate of secondary education or equivalent examinations.

"3. Notwithstanding the provisions contained in paragraph 2 (b) above:

"The University of Jordan and Yarmouk University shall admit 50 of the most successful students in each governorate or district, including nomadic areas, in accordance with the administrative divisions adopted by the Ministry of Education, as well as the most successful student at each secondary school in every governorate or district.

"Each university may admit a number of students from Arab, Islamic and foreign countries, provided that their proportion in each faculty or department does not exceed 5 per cent of the total number of students admitted thereto. They shall be selected in accordance with principles to be determined by each university."

Other conditions of admission have also been laid down, but a full listing would be beyond the scope of this report.

43. Jordan's universities are playing a significant role in propagating and teaching the principles and purposes of the United Nations, since they firmly believe in the importance of the work undertaken by the United Nations and its various agencies in the development of international relations, the promotion of humanitarian principles and the protection of human rights. Their curricula include studies on international humanitarian law, problems in international relations, and the United Nations and its specialized agencies. The purposes and principles of the United Nations, the efforts of the Organization to preserve world peace and security and the important role of its specialized agencies in developing international co-operation are thoroughly explained and discussed. Students are given a full introduction to international legislative instruments concerning human rights and other important aspects of international humanitarian relations. In general, Jordan's universities offer a complete course of study on human rights and freedoms as part of the syllabus in their faculties of law, in which human rights are taught as an optional subject and also form an important part of the compulsory subject of international law. Furthermore, the question of public rights and freedoms constitutes an integral part of the study of Jordanian constitutional law.

Cultural facilities

44. The modern State also has a fundamental obligation to develop individual character in a manner that transcends the limits of education to include the provision of a cultural background that appeals to the citizen's intellect and emotions, fosters a feeling of attachment to his society and the history, civilization, present situation and aspirations of his nation, and at the same time enables him to respond to foreign cultures by making a distinction between their beneficial and detrimental aspects. To this end, the Ministry

of Culture and the National Heritage was established at the beginning of 1988 and incorporated the Department of Culture and the Arts, the Royal Cultural Centre, the Department of Antiquities and the Directorate of National Libraries and Documentation. It is noteworthy that 49 cultural institutions are registered at the Ministry.

45. The role of the Ministry of Culture is to encourage, promote and propagate cultural and artistic production and determine the cultural fields and subjects which the Ministry regards as important for the State, society and Jordanian and Arab citizens, so that competent persons can then be commissioned to write works for publication on these subjects, in return for appropriate remuneration. The Ministry also publishes cultural books and magazines, invites writers and authors to produce works on these subjects, and establishes and supports national artistic and theatrical troupes with a view to the audio-visual presentation of culture at home and abroad. Similar foreign troupes are also invited to visit Jordan; cultural festivals, conferences and seminars are organized and Jordan participates in similar events abroad.

46. In order to achieve the above-mentioned objectives, the Ministry has formulated the following draft schemes and legislation for submission to the Prime Minister, with a view to the completion of the constitutional procedures needed for their promulgation (the Council of Ministers has already approved some of these draft proposals):

(a) The scheme for the publication and dissemination of cultural works (which was approved by the Council of Ministers on 26 November 1989), under which the Ministry is empowered to purchase the works of authors and writers with a view to their publication and sale at affordable prices in order to place culture within the reach of all. The Ministry is also empowered to commission Arabic translations of outstanding cultural works that have been published in foreign languages so that they can be published and made available to the public at affordable prices;

(b) The scheme for the award of State prizes (which was approved by the Council of Ministers on 26 November 1989), under which such prizes are to be allocated in every field of knowledge, in the form of incentives, financial rewards and certificates of merit. The Ministry hopes that this scheme will both encourage and improve the quality of intellectual creativity;

(c) Draft legislation concerning the registration, at the Directorate of National Libraries and Documentation, of editions, copies or recordings of every intellectual work published in Jordan. This would be done by assigning a registration number to each work before its publication. The work would be classified and the requisite number of copies thereof would also be registered in a systematic manner that safeguarded the right of the State, society and future generations to acquaint themselves with all works produced in Jordan. A further aim of the scheme is to establish a national bibliography by placing all public libraries under an obligation to transmit copies of the index cards of the works which they possess or acquire, so that they can be catalogued and computerized in such a way as to enable every researcher or student to ascertain which works in his chosen field are available at public libraries, as well as the exact location of these works, the number of copies available and their index numbers;

(d) Draft legislation for the protection of copyright. In spite of the fact that Jordan has experienced a tremendous cultural and scientific revival, intellectual property in the Kingdom is still protected only by the Ottoman legislation promulgated in 1907, which is now outdated and no longer meets modern requirements in regard to the scope of protection of intellectual property, copyright conditions and the legal procedures needed to ensure such protection. Accordingly, there is a need to promulgate new legislation in order to remedy these shortcomings and take account of Arab and international conventions concerning intellectual property rights. To this end, a Copyright Act has been drafted as an additional means to promote cultural and intellectual creativity in general by ensuring the protection of copyright, as well as the rights of the State and society.

47. The ambitious schemes which the Ministry regards as essential include: promulgation of this legislation concerning registration and copyright; introduction of a standard indexing system; establishment of a national library, a national publishing house, a cultural information network and cultural centres in all the governorates; introduction of a system of research grants; and development of the Arts Centre or, alternatively, its conversion into an academy or a faculty at an intermediate college.

Protection of patents

48. The Royal Scientific Society was established in Jordan on 14 April 1970 to undertake scientific and technological research and development activities relating to the development process in the Kingdom, particularly in industrial fields. Its objectives also include the propagation of scientific and technological awareness and the provision of technical advice and services of the highest standard for institutions in the public and private sectors. Through its activities, the Society is helping to promote development in all sectors and, during the short period of time since its establishment, it has made a significant number of achievements. It has also implemented numerous pilot projects, of which the following are only a few examples:

(a) Design and production of a special microprocessor to train university and intermediate college students in the fundamental principles of microprocessing and computer operation and programming;

(b) Design and production of a street lighting control system comprising sensors that measure the ambient light and automatically switch the street lamps on or off to ensure appropriate illumination under all circumstances;

(c) Design and development of a solar energy collector system for water heating purposes;

(d) Study on the recycling of plastic waste for the manufacture of plastic covers for protected crop cultivation;

(e) Design and manufacture of a special refrigeration unit for the Wet-Cell Battery Testing Laboratory;

(f) Design and programming of a data base on the Kingdom's scientific and technological capabilities, as part of the national information system;

(g) National project for the monitoring of water pollution in the River Jordan;

(h) Study on the safe handling of hazardous chemical substances. This project included a comprehensive survey of all the hazardous chemical substances to be found in Jordanian markets, a description of their chemical, physical and toxic properties and a definition of procedures to be observed during their transport and storage and of the measures to be taken to avoid and, if necessary, overcome the hazards that they involve. This study led to the production of a safety manual for persons handling these substances. The manual, in three parts, contains comprehensive information on about 3,000 substances, including their chemical and physical properties, their potential hazards and the measures to be taken in the event of an emergency;

(i) Design of construction system No. 5. This system, which is suitable for use by persons with limited means, is based on the use of concrete blocks which were specially designed by the Society. The system ensures rapid construction and allows scope for both vertical and horizontal expansion; it is also earthquake-resistant and provides excellent thermal insulation, thereby reducing energy consumption;

(j) Use of photovoltaic cells and wind power for the development and electrification of remote areas and the pumping of water from deep wells;

(k) Projects for the production of scientific reading books for children and young persons, translation of scientific and mathematical works, and conduct of scientific studies and research activities.

49. The Higher Council for Science and Technology was established on 1 December 1987 with a view to the establishment, preservation and development of a national scientific and technological base for the achievement of the objectives of socio-economic and cultural development in the Kingdom (art. 4 of Act No. 30 of 1987 establishing the Higher Council for Science and Technology).

50. In 1988, the Council pursued the following two principal objectives: formulation of scientific and technological policies, with associated plans, programmes and projects linked to the needs of the various developmental sectors; and establishment of priorities for research, development and the transfer of technology yielding socio-economic benefits consistent with world-wide technological progress, and formulation of appropriate strategies.

51. The authorities represented on the Council are those basically concerned with socio-economic and cultural development in the Kingdom and it is they who facilitate the Council's task and help it to assume its powers and responsibilities, as specified in the Act establishing the Council, including:

(a) Formulation of the Kingdom's general scientific and technological policy, the establishment of priorities and preparation, monitoring and evaluation of associated programmes and plans;

(b) Formulation of appropriate strategies for the development of the Kingdom's scientific and technological capabilities and creation of a suitable scientific climate for this purpose;

(c) Provision of support for scientific and technological research institutions and units and securing of the funds needed to promote scientific and technological research, services and activities in the Kingdom;

(d) Furtherance of scientific and technological co-operation, conclusion of scientific and technological research agreements with local, Arab, regional and international bodies, and co-ordination with those bodies.

52. The Council will be establishing its own specialized scientific and technological research centres. The Royal Scientific Society will constitute one of these centres and the powers vested in its board of trustees have therefore been transferred to the Council.

53. With regard to inventions, the Patents and Trade Marks Act No. 22 of 1953 grants the inventor the right to patent his invention. This is evident from article 4, paragraph 1, of the Act, which states: "Without prejudice to any other stipulations contained in this Act, the first real originator of any new invention shall be entitled to apply for a patent vesting him with the sole right to use, exploit, operate, manufacture, produce, supply and sell his invention or grant licences authorizing others to do so." The question of the Government's right to use a patent is dealt with in article 38, which stipulates: "Patent rights shall be enforceable against the Government of the Kingdom in the same way as they are enforceable against any other person." It is further stipulated that any government ministry may use any patent on the conditions agreed upon between it and the owner of the patent, subject to approval by the Minister of Finance, or on the conditions specified by the Minister of Justice or the arbitrator appointed for that purpose in the event of failure to reach agreement.

54. Article 50 of the above-mentioned Act stipulates as follows:

> "If an agreement is concluded with the Government of any foreign State for the reciprocal protection of patents and trade marks, any person who has applied for the protection of his invention or trade mark in the territory of the said State, or his legal representative or assignee, shall be entitled to apply for a patent or the registration of his trade mark under the terms of this Act and, in this respect, shall be granted precedence over other applicants. The patent or registration shall bear the same date as that on which the application was submitted in the foreign State."

55. Finally, Jordanian law protects the confidentiality of inventions, any infringement of which is punishable by imprisonment and/or a fine. The inventor is entitled to claim compensation if his invention is exploited. The owners of trade mark rights are also protected under the terms of the Trade Marks Act No. 33 of 1952.

56. When the Hashemite Kingdom of Jordan accedes to international trade mark conventions, trade marks that have been registered abroad are recognized under the terms of article 41 of the said Act, which stipulates as follows:

> "If the Government of the Hashemite Kingdom of Jordan at any time accedes to an international convention on the reciprocal protection of trade marks, any person who has applied for the protection of his trade mark in any other State party to the said convention shall be

entitled to register his trade mark under the terms of this Act and, in this respect, shall be granted precedence over other applicants. The registration shall bear the same date as the registration in the other State."

57. Article 38 prescribes a penalty of imprisonment for a period not exceeding one year and/or a fine not exceeding 100 dinars for any person who, with fraudulent intent, commits, attempts to commit or aids or abets in the commission of any of the following acts:

(a) Use of a trade mark registered under the terms of this Act, or of an imitation thereof, on goods of the same type as those for which the trade mark was registered;

(b) Sale, or acquisition with a view to sale or offering for sale, of goods bearing a trade mark the use of which constitutes an offence;

(c) Use of a trade mark, which has been duly registered by another person under the terms of this Act, with a view to advertising goods of the same type as those registered by the said other person;

(d) Manufacture, etching, engraving or sale of any wooden or metallic plate, stamp or die or any other object for the reproduction of a duly registered trade mark, or any imitation thereof, with a view to enabling any person other than the owner of that registered mark to use it, or the imitation thereof, on goods of the same type as those for which the said mark was registered.

58. In the judgement which it handed down on 26 January 1985 in case No. 163/84, the Jordanian High Court of Justice confirmed the legal protection of trade marks. It ruled that registration was not permissible in the case of a trade mark which promoted unfair commercial competition or indicated a false place of origin of goods, nor was it permissible in the case of marks containing the name of a company without the consent and agreement of the company concerned.